

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

Claims 1-38 (Cancelled).

39. (Previously Presented) A device, comprising:  
a cantilever;  
a metal thin film piezoresistor located on the cantilever; and  
a detector which is adapted to measure a resistance change in the piezoresistor  
in response to a force applied to the cantilever.
40. (Previously Presented) The device of claim 39 wherein the cantilever  
comprises a notched nanocantilever and the metal thin film piezoresistor is located on arm  
portions of the nanocantilever adjacent to the notch.
41. (Previously Presented) The device of claim 39 wherein:  
the cantilever comprises a biofunctionalized cantilever;  
the metal thin film piezoresistor is located adjacent to a base of the cantilever; and  
the detector is adapted to detect binding of a biological analyte to the cantilever.
42. (New) The device of claim 41, wherein the detector is adapted to detect  
binding of the biological analyte to the cantilever from a measurement of the resistance  
change in the piezoresistor.
43. (New) The device of claim 39 wherein the cantilever comprises an inorganic  
material cantilever.
44. (New) The device of claim 43 wherein the cantilever comprises an insulating  
inorganic cantilever.
45. (New) The device of claim 44 wherein the cantilever comprises a silicon  
nitride, a silicon oxynitride or a silicon oxide cantilever.

46. (New) The device of claim 39 wherein the cantilever comprises a semiconductor cantilever.

47. (New) The device of claim 39 wherein the metal thin film comprises a pure metal composition selected from the group consisting of Au, Cr, Ag, Pd, Ni, Pt, or Mn, or alloys selected from the group consisting of Au-Ni, NiCr, Bi-Sb, Ag-Ni, Cu-Ni, or Pt-Cr.

48. (New) The device of claim 39 wherein the thin metal film is located on a surface of the cantilever.

49. (New) The device of claim 39 where the thin metal film comprises a film with a thickness on the order of tens of angstroms or less.

50. (New) A measurement method, comprising:  
providing a cantilever and a metal thin film piezoresistor located on the cantilever;  
stressing the cantilever with a force having a transverse component; and  
measuring a resistance change in the piezoresistor in response to the transverse component of the force applied to the cantilever.

51. (New) The method of claim 50 wherein:  
the cantilever comprises a biofunctionalized cantilever;  
the metal thin film piezoresistor is located adjacent to a base of the cantilever; and  
the step of stressing the cantilever comprises providing a biological analyte to the cantilever.

52. (New) The method of claim 51, further comprising detecting binding of the biological analyte to the cantilever from the step of measuring the resistance change.

53. (New) The method of claim 50 wherein the cantilever comprises an inorganic material cantilever.

54. (New) The method of claim 53 wherein the cantilever comprises an insulating inorganic cantilever.

55. (New) The method of claim 54 wherein the cantilever comprises a silicon nitride, a silicon oxynitride or a silicon oxide cantilever.

56. (New) The method of claim 50 wherein the cantilever comprises a semiconductor cantilever.

57. (New) The method of claim 50 wherein the metal thin film comprises a pure metal composition selected from the group consisting of Au, Cr, Ag, Pd, Ni, Pt, or Mn, or alloys selected from the group consisting of Au-Ni, NiCr, Bi-Sb, Ag-Ni, Cu-Ni, or Pt-Cr.

58. (New) The method of claim 50 wherein the thin metal film is located on a surface of the cantilever.

59. (New) The method of claim 50 where the thin metal film comprises a film with a thickness on the order of tens of angstroms or less.

60. (New) The method of claim 50 wherein the cantilever comprises a notched nanocantilever and the metal thin film piezoresistor is located on arm portions of the nanocantilever adjacent to the notch.